SEMICONDUCTOR

MCLDB3/MCLDC34/MCLDB4/MCLDB6

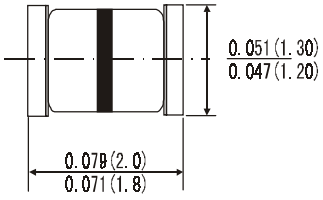
SILICON BIDIRECTIONAL DIAC

FEATURES

The three layer, two terminal, axial lead, hermetically sealed diacs are designed specifically for triggering thyristors. They demonstrate low breakover current at breakover voltage as they withstand peak pulse current, The breakover symmetry is within three volts(DB3,DC34,DB4) or four volts(DB6). These diacs are intended for use in thyrisitors phase control , circuits for lamp dimming, universal motor speed control ,and heat control.

JF's DB3/DC34/DB4/DB6 are bi-directional trigged diode designed to operate in conjunction with Triacs and SCR's

Micro-MELF



Dimensions in inches and (millimeters)

MECHANICAL DATA

- *Case*: Micro-MELF glass case
- *Weight*: Approx. 0.03 gram

ABSOLUTE RATINGS(LIMITING VALUES)

Symbols	*Parameters*		*Value*				*Units*
			MCLDB3	*MCLDC34*	*MCLDB4*	*MCLDB6*	
P_C	Power Dissipation on Printed Circuit(L=10mm)	T_A=50 C	150				mW
I_{TRM}	Repetitive Peak on-state Current	tp=10μs F=100Hz	2.0	2.0	2.0	16	A
T_{STG}/T_J	Storage and Operating Junction Temperature		-40 to+125/-40 to 110				℃

ELECTRICAL CHARACTERISTICS

Symbols	*Parameters*	*Test Conditions*		*Value*				*Units*
				MCLLDB3	*MCLDC34*	*MCLDB4*	*MCLDB6*	
V_{BO}	Breakover Voltage (Note 2)	C=22nF(Note 2) See diagram 1	Min	28	30	35	56	V
			Typ	32	34	40	60	
			Max	36	38	45	70	
$\lvert +V_{BO}\rvert - \lvert -V_{BO}\rvert$	Breakover Voltage Symmetry	C=22nF(Note 2) See diagram 1	Max	±3			±4	V
$\lvert \pm\Delta V\rvert$	Dynamic Breakover Voltage (Note1)	ΔI=(I_{BO} to IF=10mA) See Diagram 1	Min	5			10	V
V_O	Output Voltage (Note 1)	See Diagram 2	Min	5				V
I_{BO}	Breakover Current (Note1)	C=22nF(Note 2)	Max	100				μA
tr	Rise Time (Note1)	See Diagram 3	Typ	1.5				μS
I_B	Leakage Current (Note1)	V_B=0.5 V_{BO} max see diagram 1	Max	10				μA

Notes: 1.Electrical characteristics applicable in both forward and reverse directions.
2.Connected in parallel with the devices.

RATINGS AND CHARACTERISTIC CURVES MCLDB3/MCLDC34/MCLDB4/MCLDB6

DIAGRAM 1: Current-voltage characteristics

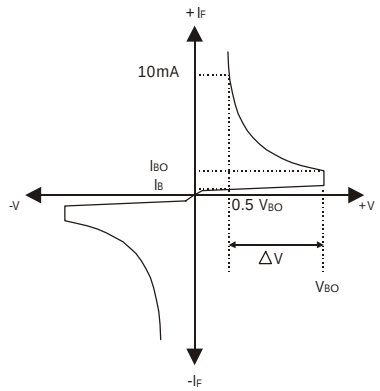


DIAGRAM 2: Test circuit for output voltage

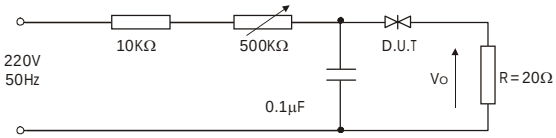


DIAGRAM 3: Test circuit see diagram2 adjust R for IP=0.5A

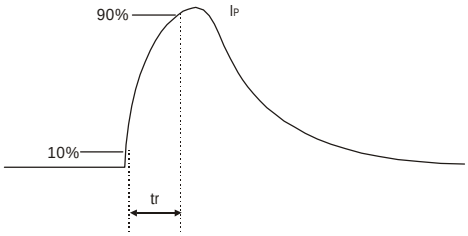


FIG.1-Power dissipation versus ambient temperature (maximum values)

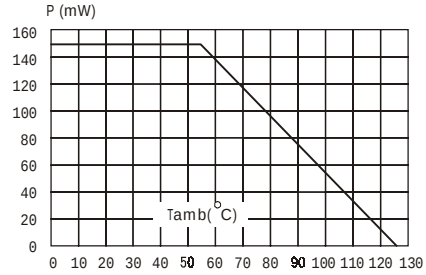


FIG.2-Relative variation of VBO versus junction temperature(typical values)

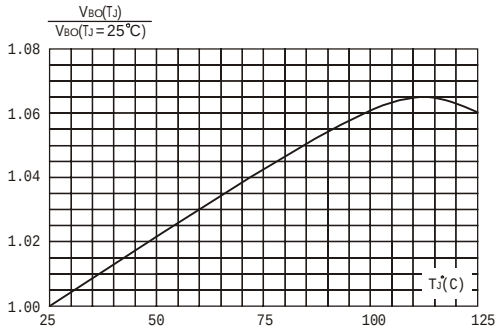
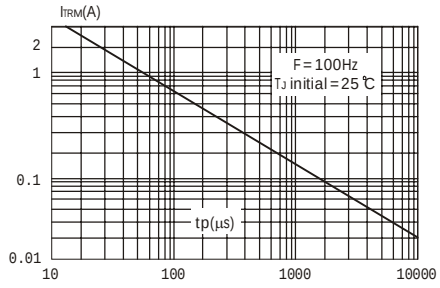



FIG.3-Peak pulse current versus pulse duration (maximum values)